

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	James G. Withers et al.	Examiner:	Trang Tran
Serial No.:	10/817,109	Group Art Unit:	2622
Filed:	April 2, 2004	Docket:	2369.024US1
Title:	METHOD AND SYSTEM OF DETECTING SIGNAL PRESENCE FROM A VIDEO SIGNAL PRESENTED ON A DIGITAL DISPLAY DEVICE		

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**PRE-APPEAL BRIEF REQUEST FOR REVIEW**

Mail Stop AF  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

The applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.

This request is being filed with a Notice of Appeal.

The review is requested for the reason(s) stated below:

§103 Rejection of the Claims

Claims 18-24, 26, 28-36 and 46-47 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Cookson et al. (U.S. Patent No. 7,167,209) in view of Barton et al. (U.S. Patent No. 6,215,526).

Applicants respectfully submit that the Office Action did not make out a *prima facie* case of obviousness in connection with any of the above rejections because even if combined, the cited references fail to teach or suggest all of the elements of Applicants' claimed invention. The references when combined must teach or suggest all the claim elements<sup>1</sup>.

Cookson discloses a method of encoding based on the Veil encoding where encoding is performed by "increasing the average luminance of one line in a field and decreasing the average luminance of the next adjacent line."<sup>2</sup> Cookson teaches grouping lines in a field of a video signal together to maintain modulation during "up res'ing" and "down res'ing".<sup>3</sup> Cookson does not teach or suggest altering total luminance of a frame or a field of a frame. Rather, the total luminance of the group, field or frame in Cookson remains constant.

Cookson seeks to "provide a form of VEIL modulation that can be detected even after down

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<sup>1</sup> M.P.E.P. § 2142 (citing *In re Vaack*, 947 F.2d 488, 20 USPQ2d 1438 (Fed.Cir. 1991)).

<sup>2</sup> See Col 1 lines 61-64.

<sup>3</sup> Col 2 lines 12-14.

res'ing."<sup>4</sup> VEIL Modulation is referred to in Cookson as the "modulation of the video signal used by Broughton, et al" as described in U.S. Patent 4,807,031.<sup>5</sup> In the Broughton patent, the "modulated video fields within the viewing area of a television, each [have] alternately, proportionately raised and lowered luminance horizontal scan lines."<sup>6</sup> The encoding of alternately, proportionately raised and lowered luminance horizontal scan lines preserves total luminance of each of the viewing areas. The encoding methods described in Broughton have the "overall luminance" of the video features and the background within the viewing area preserved.<sup>7</sup> Cookson does not depart from Broughton in maintaining the overall luminance, or total luminance, in a group, field or frame.

The figures of the waveforms of Cookson clearly support that there is no alteration to total luminance of a group, field or frame in Cookson.<sup>8</sup> In FIGS. 1-4 of Cookson, each waveform represents a grouping of multiple consecutive horizontal scan lines of a video signal.<sup>9</sup> As is visible in all figures, including FIGS. 3 and 4 which represent the tables of COL 3 and 4, the luminance change to individual scan lines of the multiple consecutive horizontal scan lines does not change the total luminance of the grouping.<sup>10</sup> Although some of the individual horizontal scan lines have a change in luminance, the total luminance of the group remains constant.

The Examiner continues to assert that the tables of FIGS. 3(A) and 3(B) reflect that "the total luminance of the group, field or frame in Cookson does not remain[] constant...." In FIG. 3(A), "the luminance level on each of the lines is controlled by a sinusoidal function with a full period of 8 lines that boosts and reduces the average horizontal luminance by up to 10%."<sup>11</sup> "The gain applied to each line by [the sinusoidal] function is ..." 6%, 10%, 9%, 3%, -3%, -9%, -10%, and -6%.<sup>12</sup> By adding the applied gain of 6 + 10 + 9 + 3 + -3 + -9 + -10 + -6, the resulting change in gain over the area of encoding consisting of the eight lines is 0. Thus, FIG. 3(A) reflects no alteration to the total luminance of a particular group, field, or frame.

In FIG. 3(B), the "data is encoded using a sawtooth function to control the chance (sp) in average luminance in each of the N lines."<sup>13</sup> "[T]he gain applied to each line by such a function is

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<sup>4</sup> See Col 2 lines 1-3.

<sup>5</sup> See Col 1 lines 20-40.

<sup>6</sup> See Abstract.

<sup>7</sup> See Col 7 lines 30-37.

<sup>8</sup> See FIGS. 1-4.

<sup>9</sup> See Col 2 lines 57-60.

<sup>10</sup> See FIGS. 1-4.

<sup>11</sup> See Col 3 lines 53-56 (emphasis added).

<sup>12</sup> See Col 3 line 60 – Col 4 line 7.

<sup>13</sup> See Col 4 lines 8-12.

..." 2.5%, 5%, 7.5%, 10%, -10%, -7.5%, -5%, and -2.5%. By adding the applied gain of  $2.5 + 5 + 7.5 + 10 + -10 + -7.5 + -5 + -2.5$ , the resulting change in gain over the area of encoding consisting of the eight lines is 0. Thus, FIG. 3(B) reflects no alteration to the total luminance of a particular group, field, or frame.

The Examiner also continues to assert that the total luminance of Cookson does not remain constant based on disclosure relating to FIG. 6 of Cookson. FIG. 6 of Cookson relates to "a removal device" that may be used to "remove the encoding from a composite video signal".<sup>14</sup> The removal device may be used by "someone attempting to circumvention content protection signaling..."<sup>15</sup> Thus, the asserted disclosure relates to removal of encoding as opposed to the claimed methods of producing a modulated video signal from a video signal.

The described method of removing encoding in Cookson is by generating "a waveform that is the inverse of the VEIL encoding scheme."<sup>16</sup> In the described example VEIL encoding scheme, "the average is raised by 10% on the first of two adjacent scans and lowered by 10% on the second of two field adjacent lines."<sup>17</sup> To remove the encoding, the removal device "decrease[s] [the] gain to 0.9 (10% down from unity) for the first line and increase[s] [the] gain to 1.1 (10% up from unity) for the second line."<sup>18</sup> Thus, the first line that originally had its average gain raised by 10% had its average gain decreased by 10% from the remove device and the second line that had its average gain lowered by 10% had its gain increased by 10% from the removal device. The result of the application of the removal device in FIG. 6 to an encoded signal is a signal with removed data encoding.<sup>19</sup> As described above, the result is achieved not achieved by changing total luminance of a particular group, field, or frame.

Cookson and Barton both fail to teach or suggest:

1. "producing a modulated video signal by raising luminance of a first frame and lowering luminance of a second frame of the plurality of frames in a substantially invisible way, wherein the raising of the luminance of the first frame increases total luminance of the first frame and the lowering of the luminance of the second frame decreases the total luminance of the second frame" of claim 18,

<sup>14</sup> See Col 2 lines 48-49 and Col 5 lines 15-20.

<sup>15</sup> See Col 5 lines 11-14.

<sup>16</sup> See Col 5 lines 33-35.

<sup>17</sup> See Col 5 lines 37-40.

<sup>18</sup> See Col 5 lines 40-44.

<sup>19</sup> See Col 5 lines 10-12.

2. "altering intensity of at least two frames of the plurality of frames to encode the digital video signal, wherein the intensity of the at least two frames are each altered by a different intensity amount so that each of the at least two frames has a different total intensity than the other frame" of claim 33,
3. "encoding a signal presence in the digital video signal by increasing luminance of a first frame of the plurality of frames and decreasing luminance of a second frame of the plurality of frames in a substantially invisible way, the first frame and the second frame being consecutive frames of the plurality of frames, wherein the increasing of the luminance of the first frame increases total luminance of the first frame and the decreasing of the luminance of the second frame decreases the total luminance of the second frame" of claim 35, and
4. "produce a modulated video signal by raising luminance of a first frame and lowering luminance of a second frame of the plurality of frames, wherein the raising of the luminance of the first frame increases total luminance of the first frame and the lowering of the luminance of the second frame decreases the total luminance of the second frame" of claim 46.<sup>20</sup>

Applicants submit that a dependent claim incorporates each of the claim elements of the independent claim from which it properly depends, and more. Applicants assert for the reasons stated above, that neither Cookson nor Barton teach or suggest<sup>21</sup> all of the claim elements of dependent claims 19-24, 26, 28-32, 34, 36, and 47.

In conclusion, Applicants reaffirm the position that Cookson and Barton, when combined, do not teach or suggest all of the claim elements of claims 18-24, 26, 28-36, and 46-47 and accordingly respectfully request that the rejection under 35 U.S.C. §103(a) be withdrawn.

Claim 25 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Cookson et al. (U.S. Patent No. 7,167,209) in view of Barton et al. (U.S. Patent No. 6,215,526) as applied to claim 18, and further in view of Schwab et al. (U.S. Patent Application Publication No. 2008/0030614 A1).

Applicants assert for at least the reasons stated in the prior section, that Cookson and Barton do not teach or suggest all of the claim elements of claims 25 and the Office Action's proposed combination with Schwab does not cure the defect. Therefore, Applicants respectfully request withdrawal of the §103(a) rejection and allowance of claim 25.

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<sup>20</sup> See page 34 lines 4-22 and page 35 lines 14-20.

Claim 27 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Cookson et al. (U.S. Patent No. 7,167,209) in view of Barton et al. (U.S. Patent No. 6,215,526) as applied to claim 18, and further in view of Barton et al. (U.S. Patent Application Publication No. 2007/0230921).

Applicants assert for at least the reasons stated in the prior section, that Cookson and Barton do not teach or suggest all of the claim elements of claims 27 and the Office Action's proposed combination with Barton II does not cure the defect. Therefore, Applicants respectfully request withdrawal of the § 103(a) rejection and allowance of claim 27.

### CONCLUSION

The applicant respectfully submits that all of the pending claims are in condition for allowance, and such action is earnestly solicited. The Examiner is invited to telephone the below-signed attorney at 636-681-1324 to discuss any questions which may remain with respect to the present application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

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Date January 5, 2009

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**CERTIFICATE UNDER 37 CFR 1.8:** The undersigned hereby certifies that this correspondence is being filed using the USPTO's electronic filing system EFS-Web, and is addressed to: Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on this 5th day of January, 2009.

Kathryn McCook  
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Signature

21 The references when combined must teach or suggest all the claim elements. M.P.E.P. § 2142 (citing *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed.Cir. 1991)).